

Remarks

For the reasons set forth below, reconsideration and allowance of the subject patent application are respectfully requested.

Applicant gratefully acknowledges the indication on page 4 of the office action that claims 24 and 25 contain allowable subject matter.

Amendments of a formal nature have been made to claims 2-4, 10 and 24. These amendments are not made for reasons relating to patentability.

Claims 1, 2, 5-11, 15-19 and 21-23 were rejected under 35 U.S.C. Section 102(e) as allegedly being anticipated by Abe *et al.* (US 2002/0154101).¹ Abe *et al.* discloses various embodiments of a driving circuit for an image display device in which signals supplied to the display device are selectively controlled to “fall” in a plurality of steps. In the embodiments referenced in the office action, the potential of a neighboring wiring is used to determine whether the signal supplied to a particular wiring will “fall” in a plurality of steps. Figure 29 shows a modulated-signal generator 10006 for determining pulse widths based on a PWM clock in correspondence with digital data values supplied from a shift register 10005. A modulated-signal driver 10007 outputs driving signals X1 to X480 for driving the modulated-signal lines of the display panel 10001. Figure 34 is a block diagram showing the circuit arrangement of the modulated-signal driver 1007 shown in Figure 29. Figures 36 and 37 show alternate embodiments for the modulated-signal line driver.

There is no disclosure in Abe *et al.* of latching the output of pulsewidth modulator 10006. Thus, Abe *et al.* does not disclose, among other things, driver circuitry for latching pulsewidth modulated video data and driving signal lines or column lines in accordance with the latched data as set forth in independent claims 1 and 9. Likewise, Abe *et al.* does not disclose, among other things, the steps of latching pulsewidth modulated video data and driving signal lines in accordance with the latched data as set forth in claim 18. Abe *et al.* also fails to disclose driver circuitry including latch circuits for latching pulsewidth modulated video data as set forth in claim 22. For at least these

¹ Applicant does not admit that Abe *et al.* constitutes prior art to the subject patent application.

reasons, Abe *et al.* cannot anticipate the subject matter of claims 1, 9, 18 and 22. *See, e.g., Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) ("A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.")

The office action references Figures 29, 34, 36 and 37 and paragraphs [0254], [0255], [02275], [0276], [0286] and [0288] of Abe *et al.* in support of the rejection of claims 1, 9, 18 and 22. However, while these portions of Abe *et al.* show and describe driver 10007 and modifications thereof, there is no disclosure or description in these referenced portions of latching pulsewidth modulated data in these drivers.

Claims 2, 5-8, 10, 11, 15-17, 19, 21 and 23 each depends from one of claims 1, 8, 18 and 22. Because of these dependencies and because these claims recite additional subject matter not disclosed by Abe *et al.*, these claims likewise are not anticipated by Abe *et al.*

Claim 9, 12, 18 and 20 were rejected under 35 U.S.C. Section 102(e) as allegedly being "anticipated" by Matthies (U.S. Patent No. 6,498,592).² Matthies discloses a display device formed as an array of tiled display devices. Figure 2 shows a block diagram of image processing and driving circuitry for use in one of the tiles in the tiled display device. The circuitry includes a pulse width modulator 219 that converts binary data supplied thereto into respective pulse widths and controls the column drivers 220 to apply the current levels provided by the programmable current sources 216 to the column electrodes of the tile. However, like Abe *et al.*, there is no disclosure in Figure 2 or in the accompanying description (*see, e.g.,* col. 10, lines 14-40) that the column drivers latch pulsewidth modulated data as specified in claims 9 and 18. Accordingly, Matthies cannot anticipate the subject matter of claims 9 and 18.

Claim 12 depends from claim 9 and claim 20 depends from claim 18. At least because of their dependency, these claims are likewise not anticipated by Matthies.

The rejection of dependent claims 3, 4, 13 and 14 is predicated on a proposed combination of Abe *et al.* and Embry *et al.* (U.S. Patent No. 6,094,689). While Applicant does not acquiesce in this rejection or in the assertions in the office action regarding the

² Applicant does not admit that Matthies constitutes prior art to the subject patent application.

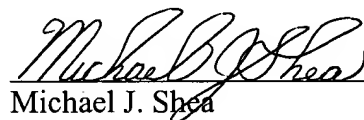
teachings of Embry *et al*, Embry *et al*. does not, in any event, remedy the above-discussed deficiencies of Abe *et al*. Thus, even assuming that Embry *et al*. were forcedly combined with Abe *et al*., the subject matter of claims 3, 4, 13 and 14 would not have resulted.

New claims 26-36 have been added. The subject matter of these claims is fully supported by the original disclosure and no new matter is added. These new claims depend from claims discussed above and/or contain features not shown in the applied references. For example, claim 30 and its dependent claims describe, among other things, an arrangement of pulse width modulation circuitry, driver circuitry and a data buffer that is not taught or suggested by the applied references, taken individually or in combination. Accordingly, these new claims are believed to be allowable.

The pending claims are believed to be allowable and notification to that effect is respectfully requested.

Respectfully submitted,

NIXON & VANDERHYE P.C.



Michael J. Shea
Registration No. 34,725

1100 North Glebe Road, 8th Floor
Arlington, VA 22201-4714
Telephone: (703) 816-4000
Facsimile: (703) 816-4100
MJS:mjs